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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/185,550	11/04/1998	MINORU SEKIGUCHI	8261516JDH	5524

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EXAMINER
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HAN, QI

ART UNIT	PAPER NUMBER
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2626

MAIL DATE	DELIVERY MODE
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08/07/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

09/185,550

Applicant(s)

SEKIGUCHI, MINORU

Examiner

Qi Han

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 May 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,13,15 and 17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,13,15 and 17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Response to Amendment***

2. This communication is responsive to the applicant's amendment dated 05/31/2007. The applicant(s) added claim 17 (see the amendment: page 4).

#### ***Response to Arguments***

3. Applicant's arguments filed on 05/31/2007 with respect to the rejection of claims 1-3, 13 and 15 under 35 USC 102/103 have been considered but are moot in view of the new ground(s) of rejection. It is noted that the newly added claim 17 introduces new issue/matter, which is also under new ground rejection. Further, it is noted that the previous cited references DAVIS et al. and HON et al. are still applicable to new ground rejection for both previous presented claims and newly added claim (see detail below).

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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4. Claim 17 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 17, the limitation of “**a part of speech of a word** to be inputted by said user” introduces new subject matter, which is not specifically disclosed in the original specification.

***Claim Rejections - 35 USC § 103***

5. Claims 1-3, 13, 15 and 17 are rejected under 35 U.S.C. 103 (a) as being unpatentable over DAVIS et al. (US 5,177,685) hereinafter referenced as DAVIS, in view of HON et al. (US 5,852,801) hereinafter referenced as HON.

As per **claim 1**, DAVIS teaches automobile navigation system using real time spoken driving instructions (title), including using (processing) data from a position sensor (col. 1, line 66), comprising:

"storing data groups in a database" and "word representing a characteristic of a corresponding data group is attached to each of said data group, said data groups being obtained by classifying numerical inputs from said sensor directly of after processing" (col. 2, lines 19-43, 'the map database...includes features that affect speed of travel...', 'positions are...stored in the map database...', 'driving instructions generated ...the two issues for spoken directions are what to say and when to say it (data groups)', 'large taxonomy of inter-section types (corresponding to database and including classifying)', 'chooses verbs (words) to indicate

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(corresponding to attach) the kind (data group) of intersection', 'refer to landmarks and timing ...'; col. 11, line 42 to col. 12, line 31, 'position finding system determine position directly by detecting an external signal' and 'position keeping system estimated the current position from knowledge of an earlier position and the change in position', 'measure the amount of turning...distances,...difference in rotation (numerical inputs)', 'position sensor...includes a displacement sensor and a direction sensor' (classifying inputs));

"outputting" "word attached to the corresponding data group among the data groups stored in said database if the corresponding data group is found to be similar to sensor input, when the sensor input is received", (col. 2, lines 35-67, 'spoken direction', 'instruction', 'speech, especially synthetic speech, as an output media', 'utterances be repeatable on demand', 'construct a new utterance with the same intent, but not necessarily the same words, as a previous message', wherein the speech is necessarily associated with (attached to) the database data groups, such as 'chooses verbs' or 'refer to landmarks'; col. 15, lines 61-64, 'instruction-vp—generate a verb phrase' and 'instruction-np—generate a noun phrase' (read on word attached to the corresponding data groups and are similar to sensor input respectively));

"temporarily storing input data from said sensor as data of a new data group after classifying said input data when it is determined that said input data does not belong to any of said groups classified in said database" and "attaching a word to said data of said new group temporarily stored to store said data of new group in said database" (col. 20, lines 54-67, 'able to model the uncertainty of a position', 'errors ... occur if the database is somewhat out date', 'acquires a model of the user automatically...learn the driver's reaction time (necessarily storing it as an input data) by measuring the time', which suggests that at least one input data is

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classified as reaction time (in a new data group) and is temporarily stored for later use in processing and/or outputting the related spoken instruction).

DAVIS does not explicitly teach the processed and/or attached word being “a (the) natural language word”. However, it is noted that DAVIS discloses ‘discourse generator (col. 3, line 22) and ‘description function to generate a description of the action...takes inputs specifying the size of the description (brief or long), the tense (past, present or future), and the reference position’ (col. 15, lines 26-67), and providing the example sentences for the instructions (col. 16, lines 9-14 and (col. 19, lines 48-50) that are obviously corresponded to natural language words, which suggests that the DAVIS’ system has capability of implementing functionality as claimed. Therefore, one having ordinary skill in the art at the time the invention was made would have found it obvious to provide discourse generator with specific instructions associating natural language words, as taught by DAVIS himself, for the purpose of providing specific and/or sufficient direction and increasing the driver’s confidence for user using the system (DAVIS: col. 15, lines 40-50).

Further, it is noted that DAVIS does not explicitly teach the attached word “being input by a user” and that “a provisional code is temporally attached to a data group stored in the database without a word until a word is provide”. However, the features are well known in the art as evidenced by HON who, in the same field of endeavor, discloses ‘method and apparatus for automatically invoking a new word module for unrecognized user input’ (title), comprising ‘the user interface’ that ‘suggests to a user which unrecognized words may be new words (corresponding to new group)’ and ‘advises the user to enter (input) words into a new word lexicon (corresponding to database)’ (abstract and col. 8, lines 64-67). HON further discloses

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'data structure arrangement, of memory 3' including 'the storage of a set or array of Hidden Markov Models 13' and other sets and arrays for the processed vectors (col. 5, lines 10-25 and Figs. 1A-1C); 'data structure for containing (storing) parameters associated with each word in the lexicon (corresponding database)' including handling 'the unigram probability of unrecognized word (a data group in the database without a word)' and 'model 101 is provided (temporally attached to) the relevant information (corresponding to provisional code) about the unrecognized word' to 'determine if the unrecognized word is in lexicon', so that the unrecognized word can be selected from n-best list or added to lexicon (reads on "until a word is provided") (col. 6, line 56 to col. 7, line 54 and Figs. 3-4). Therefore, it would have been obvious to one of ordinary skill in the art at time the invention was made to modify DAVIS by providing data structure in memory to storing the relevant information (provisional code) about unrecognized word (data group) associating n-best list with possible words in lexicon (database) or adding to lexicon, and a mechanism for entering (inputting) the corresponding word by user, as taught by HON, for the purpose (motivation) of improving the recognition accuracy and/or improving the probability of spotting new words (HON: col. 2, lines 20-26).

In addition, based on broadest reasonable interpretation of the claimed limitation in light of the specification (page 17, lines 10-14), it is noted that DAVIS further discloses that his invention is a 'computer apparatus' having '(computer) programs' and using 'database' (abstract and col. 1, lines 6-67), which necessarily or inherently include providing default codes/values (interpreted as provisional code) for certain variables in data structure of the programs or fields/records of database tables before obtaining the corresponding input word, which suggests that DAVIS' system alone may also satisfy the claimed "a provisional code is temporally

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attached to a data group stored in the database without a word until a word is provide", in a manner of necessity and/or inherence.

As per **claim 2**, it recites a sensor data processing apparatus with means-plus functions. The rejection is based on the same reason described for claim 1, because the rejection for claim 1 covers the same or similar limitations or equivalent functionalities as claim 2, wherein, the data received/derived from 'the position sensor' (DAVIS: col. 11, line 42 to col. 12, line 67) corresponds to the claimed "state or state change", and 'instruction-vp—generate a verb phrase' and 'instruction-np—generate a noun phrase' (DAVIS: col. 15, lines 61-64) corresponds to the claimed "dynamic characteristic" and "static characteristic".

As per **claim 3** (depending on claim 2), DAVIS further teaches "status judging means for judging a status using a certain word attached to a group", (col. 14, line 24 to col. 16, lines 67, 'the acts in the working prototypes...(including judging a status)', 'short description', 'long description', 'verb phrases', 'specifying direction with landmark', 'a cue is expressed either as a full sentence ...or a proposed reposition phrase').

As per **claim 13**, it recites a computer-readable storage medium. The rejection is based on the same reason described for claim 1, because the rejection for claim 1 covers the same or similar limitations or equivalent functionalities as claim 13, wherein, the data received from 'the position sensor' is read on the claimed "unrelated to language".

As per **claim 15**, it recites a method. The rejection is based on the same reason described for claim 1, because the rejection for claim 1 covers the same or similar limitations or equivalent functionalities as claim 15.



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As per **claim 17**, as best understood in view of the claim rejection under 35 USC 112 1<sup>st</sup>, (see above), the rejection is based on the same reason described for claim 1, because the rejection for claim 1 covers the same or similar limitations or equivalent functionalities of claim 17, wherein the spoken data corresponding to the unrecognized word and/or new word disclosed by HON reads on the claimed "data of a new group" and the n-best list disclosed by HON reads on the claimed "providing a suggestion to a user a part of speech of a word".

### *Conclusion*

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Effective January 14, 2005, except correspondence for Maintenance Fee payments, Deposit Account Replenishments (see 1.25(c)(4)), and Licensing and Review (see 37 CFR 5.1(c) and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolator, etc.) as follows:

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (571) 272-7604. The examiner can normally be reached on Monday through Thursday from 9:00 a.m. to 7:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions

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relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: [ebc@uspto.gov](mailto:ebc@uspto.gov). For general information about the PAIR system, see <http://pair-direct.uspto.gov>.

QH/qh  
July 30, 2007



**RICHEMOND DORVIL**  
**SUPERVISORY PATENT EXAMINER**